Amendments to the Specification

Please replace the paragraph beginning on page 2 at line 37 with the following amended paragraph:

Traditional cigar shaped blimps may also tend to present other disadvantages when viewed in the context of an aircraft having a high altitude service ceiling. Conventionally, cigar shaped airships employ fore and aft balloonets that can be inflated, or deflated, as the internal gas bags expand or contract with changes in altitude or temperature. Differential inflation of the balloonets can also be used to adjust airship trim. The balloonet operation between sea level (where ambient pressure is about 14.7 psia) and 5000 ft (where ambient pressure is about 12.5 psia) may involve balloonets of roughly 20 % of the internal volume of the aircraft[[, to]]. To reach a service ceiling of about 60,000 ft (where the ambient pressure is about 1.0 psia), the volume of the lifting gas used at lift- off from sea level may be as little as about 1/18 of the volume of the lifting gas at 60,000 ft. This may present significant control challenges at low altitude for a cigar shaped aircraft. Further, conventional airships tend to rely on airflow over their control surfaces to manoeuvre in flight. However, at high altitude the density of the air is sufficiently low that a much higher velocity may be required to maintain the level of control achieved at lower altitude. Further still, blimps and dirigibles are known to be susceptible to "porpoising". At 60,000 ft there is typically relatively little turbulence, and relatively light winds, or calm. In a light or "no-wind" situation, it may be difficult to maintain a cigar shaped dirigible "on station", i.e., in a set location for which the variation in position is limited to a fixed range of deviation such as a target box 1 km square relative to a ground station. Although 1 km may seem like a large distance, it is comparatively small relative to an airship that may be 300 m in length.

Please replace the paragraph beginning on page 12 at line 15 with the following amended paragraph:

Airship **20** has an auxiliary power unit fuel reservoir **80** located in a lower region thereof. Optionally, fuel reservoir **80** may have a filler line **82** mounted externally to outer envelope **22**, and a docking receptacle **84** mounted centrally to the top of outer envelope **22**. Filler line **82**, receptacle **84**, and reservoir **80** are all electrically grounded to the chassis of APU **52**. Filler line **82** also has a drain line **86** and three way valve **88**. Replenishment of reservoir **80** can be undertaken by flying a tanker airship **90** (Figure **5**) of similar spherical shape to a height above

aircraft **20**, and maintaining airship **90** in position. An electrically grounded filling nozzle is lowered to engage receptacle **84**. When in position, nozzle **92** is energized to clamp to receptacle **84**, making a sealed, and electrically grounded, connection. Fuel is then permitted to flow through line **82** to replenish reservoir **80**. While this occurs, aircraft **90** may release lifting gas at a rate corresponding to the rate of fuel transfer so as to maintain approximately neutral buoyancy. Similarly, inflation of gas bag **30** of aircraft **20** may be increased at the same rate to maintain approximately neutral buoyancy of aircraft **20**. During replenishment three way valve ~~**86**~~ **88** is set to permit flow from receptacle **84** to reservoir **80**. When reservoir **80** approaches a "full" condition, aircraft **90** is signalled to cease filling. A valve ~~**92**~~ on delivery line **94** is closed, and line **94** is permitted to drain through nozzle ~~**84**~~ **92**. Line **82** is similarly permitted to drain into reservoir **80**. When line **82** has been drained in this way, valve ~~**86**~~ **88**is set to permit line **82** to drain through drain line ~~**84**~~ **86**. Nozzle ~~**84**~~ **92** is de-energized, ~~replenishment feed~~ delivery line **94** is retracted, and aircraft **90** returns to base.

Please replace the paragraph beginning on page 13 at line 20 with the following amended paragraph:

The lower region of outer envelope ~~**20**~~ **22** houses an equipment blister **120** sewn generally inwardly of the otherwise generally spherical surface of outer envelope **22**. Equipment blister **120** houses a control module **122** connected to operate motors **44, 46, 62, 64, 78** and APU **52**, hence controlling propulsion and direction of airship **20**. In addition control module **122** is operable to control inflation of (a) gas bag **30**, (b) bleed of excess lifting gas from gas bag **30**, (c) positive pressurisation of outer envelope **22** by blower **26**, and pressure relief by value **28**, (d) port, starboard and stern navigational lights **124, 126, 128**; (e) the refuelling system described above; and (f) internal lights **130**. Control module **122** is connected to a radio aerial array **132** by which control and equipment monitoring signals are sent to a remotely located controlling station, indicated in Figure **5** as **136**. Controlling station **136** is preferably a ground station, whether at a fixed installation or in a mobile installation such as a command truck, but could also be a ship-borne controlling station or an airborne controlling station. Control module **122** is also connected to sensors **144, 146** for measuring external ambient temperature and pressure; V-A-Ω Meter, **148** for measuring current and voltage from solar cell array **50**; sensors **150, 152** (Figure **1b**) for measuring gas bag temperature and pressure; **154, 156** for measuring APU fuel supply in reservoir **80**; V-A-Ω Meter **158** for measuring motor current draw; antenna **160** for receiving global positioning system or other telemetry data, **162** for measuring relative air speed; and **164, 166** for measuring stored charge (in the case of battery power) and fuel cell status (in the case of

use of a fuel cell). Inputs from the various sensors are used to permit (a) the controlling station to be aware of the status of the operating systems of aircraft **20**, and (b) control of the operation of airship **20**.

Please replace the paragraph beginning on page 15 at line 34 with the following amended paragraph:

The proportion of inflation of gas ~~bay~~ bag **30** at sea level tends to correspond to the service ceiling of the aircraft. That is, partial inflation can be made for the given operational service ceiling, be it 10,000 ft, 18,000 ft, 40,000 ft, 60,0000 ft or higher. The volume of sea level inflation may be of the order of 70 % of maximum inflation by volume to achieve a service ceiling of about 10,000 ft, 50 % to achieve a service ceiling of about 18,000 ft, 25 % to achieve a service ceiling of about 35,000 ft; 20 % to achieve a service ceiling of about 40,000 ft, 10 % to achieve a service ceiling of about 50,000 ft; about 7 1/2 % to achieve a service ceiling of 60,000 ft; and about 5 % to achieve a service ceiling of about 70,000 ft. In the preferred embodiment, the aircraft has a service ceiling of about 60,000 ft.